

XXXVII.—*Brief Descriptions of new Thysanoptera*.—XII.
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THIS is continued from *Ann. & Mag. Nat. Hist.* ser. 9, vol. vii. pp. 355–368, and the following species are described:—

<i>Physothrips minor</i> , sp. n.		<i>Elaphrothrips antennalis</i> , sp. n.
" <i>andrewsi</i> , sp. n.		<i>Dicaiothrips crassiceps</i> , sp. n.
<i>Megathrips honoris</i> , sp. n.		" <i>breviceps</i> , sp. n.
<i>Bactridothrips serraticornis</i> , sp. n.		

Suborder TEREBRANTIA.

Physothrips minor, sp. n.

♀.—Length about 1·0 mm.

Belonging to the *P. usitatus* group.

Colour dark brown; fore-tibiæ pale yellowish, lightly shaded with grey-brown basally, intermediate and hind-tibiæ at tips and all tarsi pale yellow; third antennal joint pale yellow, for the most part shaded with grey. Fore-wing dark grey-brown, excepting basal fifth or thereabouts, where it is light.

P. antennatus type.—Eyes coarsely faceted, pilose; ocelli large, interocellar setæ situated between posterior ocelli, long and stout. Maxillary palpi long and slender.

Antennæ as in *antennatus*, Bagn., but joints 3 and 4 not so strongly produced distally; 4 longer than any other joint; 3 apparently short on account of being very broad near middle; 5 with a very short stem-like constriction; relative lengths of 3 to 8 approximately 39 (with stem) : 46 : 33 : 41 : 8 : 13. Forked trichomes on 3 and 4 stout.

Upper vein with a series of setæ running to the distal third and two at tip; those of posterior vein long, commencing at the second setæ of the upper vein.

Abdominal segments 8–10 obconical; terminal setæ long and strong, those on 9 approximately 1·4 times the length of the segment. Eighth tergite posteriorly without fringe.

This species comes near to *P. antennatus*, Bagn., and *P. antennalis*, Karny, and is distinguished from both by the small size and the relatively shorter joint 4 of the antennæ.

Type. In Coll. Bagnall.

Hab. INDIA, Maddur, Mysore, 30. viii. 1918, and Coimbatore, 7. ix. 1918, single females with *Dendrothripoides ipomeæ*, sp. ined., on *Ipomea staphylina* (*Ramakrishna*).

Physothrips andrewsi, sp. n.

♀.—Length c. 1·4 mm.

Belonging to the *P. vulgatissimus* group, having the antennal joints 3 and 4 long, slender, and fusiform.

Colour uniform dark brown; fore-wings brown, with the basal fourth or more light, practically clear. Antennæ brown, joint 2 yellowish distally, 3 wholly light greyish-yellow, and 4 basally greyish-yellow to light yellowish-brown. Anterior legs wholly light greyish-yellow, intermediate pair also light, but with the fore margin shaded to a deepish brown—chiefly medianly; posterior pair with the femora dark brown, lighter distally, and the tibiæ greyish-yellow.

Head transverse, dorsal surface irregularly transversely striated; ocelli placed well back, interocellar setæ short and stout, about equal in length to the width separating them. Antennæ about 2·5 times as long as the head, relative lengths of joints 2–8 approximately as follows:—44 : 72 (with pedicel) : 68 : 44 : 65 : 5 : 7. Intermediate joints slender, very approximately of uniform breadth. Maxillary palpi long, relative lengths of joints approximately 21 : 12 : 20.

Pronotum transverse, approximately 1·3 times as long as the head and about 0·8 as long as broad. Surface transversely striated, sparingly and minutely setose, bristles at each hind angle subequal in length, long and stout, between 0·55 and 0·6 the length of the pronotum. Legs somewhat stout, especially the anterior pair; regularly setose. Hind tibiæ with series of spines in the distal two-thirds (or thereabouts) within, closely set, moderately long and stout, and numbering a dozen or more, the terminal pair very long and stout. Setæ of fore-wing somewhat long and stout, 1+1+1 in the distal half of the upper vein, 24–26 and 12–15 on the costa and lower vein respectively.

Abdomen oblong-ovate, terminal bristles long.

Easily distinguished from *vulgatissimus* by the coloration of wings and legs. It comes very near indeed to the Japanese *P. pallipes*, Bagn., and differs chiefly in the coloration of head and thorax, the longer intermediate antennal joints, the longer pronotum (14 : 10), the longer pronotal bristles, whilst there are differences in the chætotaxy of the head. Both *pallipes*

and *albipes* possess a stoutish pair of setæ behind posterior ocelli which are not developed in this species, whilst the interocellar pair is longer and not placed so far forwards in *andrewsi*.

Type. British Museum of Natural History (Imperial Bureau of Entomology).

Hab. INDIA, Ringtong, T. E., Darjiling Dist., India; on rose, 14. vi. 1916, ♀ ♀ only. Reg. no. 287.

Suborder TUBULIFERA.

Megathrips honoris, sp. n.

Syn. *M. quadrituberculatus* in part.

In referring *Idolothrips quadrituberculatus* to the genus *Megathrips* I described a ♂ example which, despite certain colour-differences, I presumed to be referable to the species *quadrituberculatus*. This male example is described in this series of descriptions, Part VIII. (Ann. & Mag. Nat. Hist. ser. 8, vol. xvii., May 1916, pp. 406-407), but further material has produced ♂ examples of another species of *Megathrips* agreeing in the type of coloration with *M. quadrituberculatus* and undoubtedly referable to that species.

♂.—Length (including tube) 4.5 mm.

Fore-tibiæ brown excepting at apex and basally; intermediate tibiæ brown except at apex, and hind-tibiæ brown except the extreme base and distal third, which are yellow. Antennæ more than twice as long as the head; relative lengths of joints 3 to 8 as follows:—61 : 50 : 45 : 33 : 16 : 14.

Abdominal segment 6 furnished with a pair of lateral spine-like tubiform processes at anterior angles, slightly outwardly directed, but scarcely curved, and not quite reaching the line of the posterior margin; 8 with a pair of lateral tooth-like processes near posterior angles.

Tube about 1.5 times as long as head, stout near base, but sharply narrowed in the first fourth, more strongly setose (and with longer setæ) than in *quadrituberculatus*. Terminal hairs short.

Type. In Coll. Bagnall.

Hab. Japan, Kobe; 1 ♂, April 1915. Reg. no. 139 (*J. E. A. Lewis*).

Megathrips quadrituberculatus (Bagn.).

As shown above, the ♂ example referred to this species proves in the light of further material to be another species. Mr. Lewis captured two examples of each sex of the true *M. quadrituberculatus* by sweeping grass at Kobe on June 30th, 1916—so I am able to characterize the male.

♂.—As in ♀. Sixth abdominal segment widened before middle and furnished with a pair of stout tubiform processes curving outwards and not reaching the line of the posterior margin of 7; 7 with a minute tooth at each posterior angle, and 8 slightly widened near middle and then produced to a stout tooth before posterior angles.

Differs from *M. honoris* in the coloration of the tibiæ, the more massive armature of abdominal segments 6 and 8, in the weaker chætotaxy of the tube, which is also longer in this species compared to the length of head.

Genus *BACTROTHRIPS*, Karny.

Syn. *Krinothrips*, Bagn. 1918.

On account of the pressure of the past five years, due to war conditions, I am afraid that in my last contribution to this series I erected the genus *Krinothrips* quite overlooking Karny's *Bactrothrips*, though it was previously known to me. *Krinothrips* must be regarded as a synonym of *Bactrothrips*, but the description establishes the fact that Karny's diagnosis was based upon a male example, the ♂ differing from the ♀ in exactly the same way as do ♂♂ of *Megathrips* and allied genera.

Bactrothrips divergens (Bagn.).

Bactrothrips longiventris, Karny, is a smaller insect than *B. divergens* (Bagn.), and differs in several directions, including the colouring of the tibiæ, which are all yellowish in the distal half in Karny's species. The tubiform abdominal processes of the male appear to vary in size.

I have recently received examples of *B. divergens* from the Imperial Bureau of Entomology (no. 163), taken in plenty on cacao in the Belgian Congo (*R. Mayné*).

Bactridothrips serraticornis, sp. n.

Karny has recently diagnosed the genus *Bactridothrips* for a Malayan insect, the male differing from that sex in the genus *Bactrothrips* in the longer processes of the sixth abdominal segment and the armature of segments 7 and 8.

A single ♂ example from Ceylon was recently sent me by Mr. Green which would seem to differ from *B. idolomorphus*, Karny, in several particulars.

♂.—Length about 7·0 mm.

Head 2·5 times as long as broad (as against 2·3 in *idolomorphus*); antennæ very slender, nearly three times as long as the head, with the joints 6 and 7 relatively longer than in *idolomorphus*, the relative lengths of joints 3–8 being approximately 69 : 50 : 43 : 30 : 13 : 11, as compared with 68 : 48 : 42 : 27 : 10 : ?.

The tibiæ are golden-yellow in colour, the fore-tibiæ being shaded with brown in the basal two-thirds and the intermediate and hind pairs are dark brown in the basal half and basal two-fifths (or thereabouts) respectively. All tarsi similarly yellow, with the ends (or second joints) dark brown.

The horns of the sixth abdominal segment are much shorter than in *idolomorphus* (a line drawn across their tips would only approximate the base of the teeth of the seventh segment), whilst the inner margins are noticeably and irregularly serrate in the basal three-fourths or thereabouts. The teeth of the eighth abdominal segment are very much stronger and stouter than those on the seventh, whilst the sides at middle are inclined to be tuberculate.

The tube is approximately twice as long as the head and 8·0 times as long as broad at base; the surface is strongly setose excepting in the distal fifth, the basal half only being setose in Karny's species.

The legs are not so long as shown in *idolomorphus*, and upon careful measurement the intermediate and hind-tibiæ (without tarsi) measure 0·9 mm. and 0·77 mm. respectively, as compared with 1·25 mm. and 0·95 mm.

Type. In Coll. Bagnall.

Hab. CEYLON, Pundaluoya; 1 ♂ only (*E. E. Green*).

Elaphrothrips (Idolothrips) antennalis, sp. n.

♂.—Length about 3·7 mm.

Colour blackish-brown, with the fore-femora distally and all tarsi lighter; antennal joints 3 and 4 yellow, with the apical two-fifths or thereabouts of 4 light brown; 5 yellow in the basal half.

Form much as in the North-American species *Idolothrips tuberculatus* and *flavipes*, Hood. Head much as in *flavipes*, just upon twice as long as broad; cheeks with several short spines; postocular bristles set well in and close to the eyes, long and slender, at least 1·5 times the length of an eye. First antennal joint stout compared to 2; the elongate-clavate segment 3 peculiar because of a rounded swelling of the inner margin in the neighbourhood of the basal third; relative lengths of the joints 3 to 8 approximately as follows:—49 : 46 : 40 : 28 : 19 : 18. Trichomes long and very slender.

Pronotum about 0·45 the length of the head, transverse, and twice as broad as long. Mid-lateral and postero-marginal bristles at least well-developed, but difficult to make out in the preparation; pale. Outer postero-marginal about 0·85, the inner pair shorter and more slender, and the mid-lateral 0·5 the median length of the pronotum. Fore-legs not very strongly incrassate, fore-tarsus armed with a broad-seated tooth. Wings practically colourless, broad, and reaching to the sixth abdominal segment; fore-wings with a series of thirty-five duplicated cilia. Pterothorax broad. Abdomen heavy, broader than the pterothorax, and gradually narrowing from the fifth segment. Tube about 0·9 the length of the head; somewhat heavy, with side subparallel to the distal third, whence it narrows sharply; about 0·65 as wide at tip as across middle. Terminal hairs weak, approximately 0·65 as long as the tube. Abdominal bristles long, light yellow in colour, the longest on segment 9 as long as the tube. Ninth sternite (or pleurites?) apparently produced in the form of a pair of blunt spine-like processes, one on each side of the tube.

The shape of the third antennal joint is a peculiar feature of this species.

Type. In Coll. Bagnall.

Hab. JAPAN, Kobe; 1 ♂, 11. vii. 1916, on grass (*J. E. A. Lewis*). Reg. no. 293.

Dicaiothrips crassiceps, sp. n.

♀.—Length about 5·5 mm.

Dark blackish brown, end of tube and tarsi somewhat lighter. Segment 3 of antennæ yellow, with a ring of light brown at base, and the apex dark brown, concolorous with the following segments; wings apparently clear, at most lightly tinged (the tips only protrude over the sides of the body in the single preparation); cilia smoky.

Head short and broad, only 1·7 times as long as broad, cheeks faintly incurved behind eyes and then as gently arched, set with a few strong spines. Eyes prominent, finely faceted, occupying about 0·3 the length of the head; post-ocular bristles long, 1·5 times as long as an eye. Antennæ 2·3 times as long as the head, relative lengths of joints approximately as follows:—51 : 40 : 35 : 30 : 19 : 14.

Pronotum about 0·5 as long as the head; setæ well-developed, colourless, the outer postero-marginal pair about 0·8 and the mid-lateral 0·5 as long as the median length of pronotum; pair at anterior angles shorter. Pterothorax stout, transverse. Wings broad, reaching to sixth abdominal segment, with cilia very closely set. Femora irregularly spinose; fore-tarsus with tooth.

Abdomen heavy, broader than pterothorax, gradually narrowing posteriorly. Tube long and slender; 1·2 times as long as the head and about 4 times as long as broad near base; terminal hairs long and slender, 0·65 as long as the tube, and abdominal bristles on segment 9 yellowish brown; very long, 1·4 times the length of the tube. Other abdominal bristles moderately long, colourless or nearly so.

Recognized by the remarkably short and broad head. Only three other species are known to me wherein only the third antennal joint is yellow—namely, *denticollis*, Bagn., *falcatus*, Karny, and *seychellensis*, Bagn.

Hab. INDIA, Myawadi, on the Burmo-Siamese frontier, at 900 feet, 24–26. xi. 1911 (*F. II. Gravely*). 4303, Reg. no. 174. One ♀ only.

Dicaiothrips breviceps, sp. n.

♀.—This species closely resembles *D. crassiceps*, m., but the head is not so broad compared to the length, being 1·9 times as long as broad near base.

Although the specimen is almost certainly female, the fore-legs are fully developed, the fore-tarsus being armed with a long stout tooth. The antennæ are unfortunately broken off in the unique example.

The tube is much shorter and stouter than in *D. crassiceps*, being approximately as long or nearly as long as the head, 3.0 times as long as broad at base, and about 2.5 times as broad at base as at tip. All abdominal bristles lightly coloured (colourless), those on 9 being 0.8 the length of the tube.

Comes near *D. crassiceps*, but readily distinguished by the slightly narrower head, the shorter tube, and the shorter bristles on the ninth segment of the abdomen. I hope to describe this specimen more fully when dealing with Messrs. Alluaud's and Jeannel's collection.

Hab. BRITISH EAST AFRICA, Nairobi (Wa-Kikvyu et Masai) (*Ch. Alluaud*, 1904).

XXXVIII.—*Note on a Freshwater Sponge from New Zealand.* By R. KIRKPATRICK.

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RECORDS of freshwater sponges from New Zealand are so rare that it seems worth while calling attention to any fresh discoveries, even if only of new localities for a known species.

Early in the year numerous small specimens of a freshwater sponge were sent to the Natural History Museum, London, by Mr. H. Hill, of Napier, N.Z.

The specimens were gathered on the north shore of Lake Taupo. The lake, which is situated in the centre of North Island, is 1210 feet above sea-level, has an area of 140 square miles, and a depth of 300 to 530 feet.

The specimens had been stranded after a gale. They are about a square inch in area and an inch high. Some specimens form thin flat crusts without visible oscules, others are conical, with one large oscule, and others, again, are irregular and meandrine (see text-figure). The texture is fairly firm, and the body permeated with fine sand. No gemmules were present in this lot of material.